

FILE 'HCAPLUS' ENTERED AT 10:16:04 ON 10 JUN 2009  
L1 720 S (METHYL(W)((MANNO-OLIGOSACCHARIDE) OR MANNOOLIGOSACCHARIDE))  
L2 720 S (METHYL(W)((MANNO-OLIGOSACCHARIDE) OR MANNOOLIGOSACCHARIDE))  
L3 1216327 S NUTRITIONAL OR PREBIOTIC OR DIETARY OR FIBER OR BACTERIA  
L4 188 S L2 AND L3  
L5 465421 S FOOD  
L6 61 S L4 AND L5  
L7 26 S L6 AND (PY<2004 OR AY<2004 OR PRY<2004)

FILE 'STNGUIDE' ENTERED AT 10:19:41 ON 10 JUN 2009

FILE 'HCAPLUS' ENTERED AT 10:19:49 ON 10 JUN 2009

FILE 'STNGUIDE' ENTERED AT 10:19:52 ON 10 JUN 2009

FILE 'HCAPLUS' ENTERED AT 11:41:38 ON 10 JUN 2009  
L8 427 S (ISOMALTO-OLIGOSACCHARIDE) OR ISOMALTOOLIGOSACCHARIDE  
L9 1529307 S LONG OR LENGTH OR (DEGREE OF POLYMERIZATION)  
L10 20 S L8 AND L9  
L11 9 S L10 AND (PY<2004 OR AY<2004 OR PRY<2004)

FILE 'STNGUIDE' ENTERED AT 11:41:43 ON 10 JUN 2009

FILE 'HCAPLUS' ENTERED AT 11:42:14 ON 10 JUN 2009  
L12 8 S L11 NOT L7

=> file hcaplus		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	0.22	0.22

FILE 'HCAPLUS' ENTERED AT 10:16:04 ON 10 JUN 2009  
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FILE COVERS 1907 - 10 Jun 2009 VOL 150 ISS 24  
 FILE LAST UPDATED: 9 Jun 2009 (20090609/ED)  
 REVISED CLASS FIELDS (/NCL) LAST RELOADED: Feb 2009  
 USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Feb 2009

HCAplus now includes complete International Patent Classification (IPC) reclassification data for the third quarter of 2008.

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<http://www.cas.org/legal/infopolicy.html>

This file contains CAS Registry Numbers for easy and accurate substance identification.

```
=> s (methyl((manno-oligosaccharide) or mannooligosaccharide)) or
((mannooligosaccharide or (manno-oligosaccharide))same (methyl ether)) or
(partially hydrolyzed guar gum) or PHGG or isomaltooligosaccharide or
(isomalto-oligosaccharide))
MISSING OPERATOR 'METHYL((MANNO-OLI'
The search profile that was entered contains terms or
nested terms that are not separated by a logical operator.
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=> s (methyl(w)((manno-oligosaccharide) or mannooligosaccharide)) or
((mannooligosaccharide or (manno-oligosaccharide))same (methyl ether)) or
(partially hydrolyzed guar gum) or PHGG or isomaltooligosaccharide or
(isomalto-oligosaccharide))
MISSING OPERATOR CCHARIDE))SAME
The search profile that was entered contains terms or
nested terms that are not separated by a logical operator.
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=> s (methyl(w)((manno-oligosaccharide) or mannooligosaccharide)) or
((mannooligosaccharide or (manno-oligosaccharide))(adj5)(methyl ether)) or
(partially hydrolyzed guar gum) or PHGG or isomaltooligosaccharide or
(isomalto-oligosaccharide))
MISSING OPERATOR CCHARIDE))(ADJ5
The search profile that was entered contains terms or
nested terms that are not separated by a logical operator.
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=> s (methyl(w)((manno-oligosaccharide) or mannooligosaccharide)) or
((mannooligosaccharide or (manno-oligosaccharide))(a5)(methyl ether)) or (partially
hydrolyzed guar gum) or PHGG or isomaltooligosaccharide or
(isomalto-oligosaccharide))
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MISSING OPERATOR CCHARIDE)) (A5

The search profile that was entered contains terms or nested terms that are not separated by a logical operator.

=> s (methyl(w)((manno-oligosaccharide) or mannoooligosaccharide)) or ((mannooligosaccharide or (manno-oligosaccharide)(w)(methyl ether)) or (partially hydrolyzed guar gum) or PHGG or isomaltooligosaccharide or (isomalto-oligosaccharide))

```
1102255 METHYL
  2790 MANNO
  33462 OLIGOSACCHARIDE
    42 MANNO-OLIGOSACCHARIDE
      (MANNO(W)OLIGOSACCHARIDE)
  235 MANNOOLIGOSACCHARIDE
    1 METHYL(W)((MANNO-OLIGOSACCHARIDE) OR MANNOOLIGOSACCHARIDE)
  235 MANNOOLIGOSACCHARIDE
  2790 MANNO
  33462 OLIGOSACCHARIDE
    42 MANNO-OLIGOSACCHARIDE
      (MANNO(W)OLIGOSACCHARIDE)
1102255 METHYL
559789 ETHER
  26185 METHYL ETHER
    (METHYL(W)ETHER)
    0 (MANNO-OLIGOSACCHARIDE)(W)(METHYL ETHER)
361469 PARTIALLY
151837 HYDROLYZED
  12809 GUAR
  65288 GUM
    58 PARTIALLY HYDROLYZED GUAR GUM
      (PARTIALLY(W)HYDROLYZED(W)GUAR(W)GUM)
    35 PHGG
    386 ISOMALTOOLIGOSACCHARIDE
    225 ISOMALTO
  33462 OLIGOSACCHARIDE
    63 ISOMALTO-OLIGOSACCHARIDE
      (ISOMALTO(W)OLIGOSACCHARIDE)
L1      720 (METHYL(W)((MANNO-OLIGOSACCHARIDE) OR MANNOOLIGOSACCHARIDE)) OR
      ((MANNOOLIGOSACCHARIDE OR (MANNO-OLIGOSACCHARIDE)(W)(METHYL ETHER)) OR (PARTIALLY HYDROLYZED GUAR GUM) OR PHGG OR ISOMALTOOLIGOSACCHARIDE OR (ISOMALTO-OLIGOSACCHARIDE))
```

=> s (methyl(w)((manno-oligosaccharide) or mannoooligosaccharide)) or ((mannooligosaccharide or (manno-oligosaccharide)(w)(methyl glycoside)) or (partially hydrolyzed guar gum) or PHGG or isomaltooligosaccharide or (isomalto-oligosaccharide))

```
1102255 METHYL
  2790 MANNO
  33462 OLIGOSACCHARIDE
    42 MANNO-OLIGOSACCHARIDE
      (MANNO(W)OLIGOSACCHARIDE)
  235 MANNOOLIGOSACCHARIDE
    1 METHYL(W)((MANNO-OLIGOSACCHARIDE) OR MANNOOLIGOSACCHARIDE)
  235 MANNOOLIGOSACCHARIDE
  2790 MANNO
  33462 OLIGOSACCHARIDE
    42 MANNO-OLIGOSACCHARIDE
      (MANNO(W)OLIGOSACCHARIDE)
1102255 METHYL
  42209 GLYCOSIDE
  215 METHYL GLYCOSIDE
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        (METHYL(W)GLYCOSIDE)
      0 (MANNO-OLIGOSACCHARIDE) (W) (METHYL GLYCOSIDE)
361469 PARTIALLY
151837 HYDROLYZED
  12809 GUAR
  65288 GUM
    58 PARTIALLY HYDROLYZED GUAR GUM
      (PARTIALLY(W)HYDROLYZED(W)GUAR(W)GUM)
    35 PHGG
    386 ISOMALTOOLIGOSACCHARIDE
    225 ISOMALTO
  33462 OLIGOSACCHARIDE
    63 ISOMALTO-OLIGOSACCHARIDE
      (ISOMALTO(W)OLIGOSACCHARIDE)
L2      720 (METHYL(W)((MANNO-OLIGOSACCHARIDE) OR MANNOOLIGOSACCHARIDE)) OR
          ((MANNOOLIGOSACCHARIDE OR (MANNO-OLIGOSACCHARIDE) (W) (METHYL GLYC
          OSIDE)) OR (PARTIALLY HYDROLYZED GUAR GUM) OR PHGG OR ISOMALTOOL
          IGOSACCHARIDE OR (ISOMALTO-OLIGOSACCHARIDE))

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=> s nutritional or prebiotic or dietary or fiber or bacteria
      71108 NUTRITIONAL
      4706 PREBIOTIC
    193059 DIETARY
    632347 FIBER
    366334 BACTERIA
L3      1216327 NUTRITIONAL OR PREBIOTIC OR DIETARY OR FIBER OR BACTERIA

```

```

=> s 12 and 13
L4      188 L2 AND L3

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=> s food
L5      465421 FOOD

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```

=> s 14 and 15
L6      61 L4 AND L5

```

```

=> s 16 and (PY<2004 or AY<2004 or PRY<2004)
      24035561 PY<2004
      4799862 AY<2004
      4272561 PRY<2004
L7      26 L6 AND (PY<2004 OR AY<2004 OR PRY<2004)

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=> file stnguide
COST IN U.S. DOLLARS                SINCE FILE      TOTAL
                                     ENTRY      SESSION
FULL ESTIMATED COST                17.10      17.32

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FILE 'STNGUIDE' ENTERED AT 10:19:41 ON 10 JUN 2009  
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 LAST RELOADED: Jun 5, 2009 (20090605/UP).

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=> d 17 1-26 ti abs bib
YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS' - CONTINUE? (Y)/N:y

```

TI A nutritious tablet containing low calorie fiber of corm  
eleocharitis, and its preparation

AB A nutritious tablet contains low calorie fiber of Corm  
Eleocharitis. Process for preparing the nutritious food comprises  
moistening fresh Corm Eleocharitis; cleaning; discarding impurities;  
centrifugating; filtering; rinsing; pulverizing; centrifugating;  
filtering; softening by steaming and decocting at 120-150°C under  
0.1-0.3 MPa; pulverizing; oven drying; pulverizing; getting Corm  
Eleocharitis fiber powder; adding fructo-oligosaccharide,  
isomalto-oligosaccharide, and defatting sugar-free milk  
powder; and mixing. Said product is suitable for the middle aged and the  
senior patients; and patients of diabetes, hypertension, hyperlipidemia,  
hyperglycemia, coronary heart disease, constipation, dental caries, and  
obesity.

AN 2008:220656 HCAPLUS <<LOGINID::20090610>>

TI A nutritious tablet containing low calorie fiber of corm  
eleocharitis, and its preparation

IN Cao, Kaiguang

PA Nanchang Univ., Peop. Rep. China

SO Faming Zhuanli Shenqing Gongkai Shuomingshu  
CODEN: CNXXEV

DT Patent

LA Chinese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	CN 1413487	A	20030430	CN 2002-151189	20021203 <--
	CN 1182788	C	20050105		
PRAI	CN 2002-151189		20021203	<--	

L7 ANSWER 2 OF 26 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Health protecting preparation made from bacteria, and  
preparation method thereof

AB A microbial preparation, JUNYIKANG, is prepared by fermenting one or more of  
bifidobacteria and one or more of intestinal beneficial bacteria  
(such as Clostridium butyricum, Lactobacillus acidophilus, and  
Streptococcus thermophilus); centrifuging to obtain wet thalli; dispersing  
in skimmed milk powder; lyophilizing to obtain powder; and mixing with one  
or more of bifidus factors to make capsule, microcapsule, granule, tablet,  
and oral liquid Various vitamins and trace elements can be added. The  
above bifidobacteria are selected from bifidobacteria infantis CGMCC  
0313-2, Bifidobacterium longum CGMCC 0313-5, Bifidobacterium breve CGMCC  
0313-6, and Bifidobacterium bifidum CGMCC 0313-7. The bifidus factors can  
promote the growth and proliferation of bifidobacteria and are selected  
from oligosaccharide or natural plant extract (such as oranges and tangerines  
peel extract, Radix Ginseng extract, Folium Camelliae sinensis extract, Fructus  
Lycii extract, and Fructus Schisandrae Chinensis extract) or saccharide  
substance (such as soy oligosaccharide, fructooligosaccharide,  
xylooligosaccharide, galactose-oligosaccharide, lactulose-oligosaccharide,  
isomaltooligosaccharide, glucose oligosaccharide, melitose,  
stachyose, and chitosan). The preparation has the functions of improving  
intestinal ecol. balance, promoting beneficial bacteria growth,  
and inhibiting pathogenic bacteria propagation; and has  
therapeutic effects on dysentery, constipation, gastrointestinal  
dysfunction, and diarrhea. This preparation can be used as food,  
health product, or food additive.

AN 2007:941099 HCAPLUS <<LOGINID::20090610>>

TI Health protecting preparation made from bacteria, and  
preparation method thereof

IN Cui, Yunlong; Cui, Yunyu

PA Beijing Dongfang Baixin Biological Tech. Co., Ltd., Peop. Rep. China

SO Faming Zhuanli Shenqing Gongkai Shuomingshu  
CODEN: CNXXEV

DT Patent

LA Chinese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1192360	A	19980909	CN 1997-115093	19970801 <--
PRAI	CN 1997-115093		19970801	<--	

L7 ANSWER 3 OF 26 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Manufacture of milk powder products containing active Bifidobacterium and isomaltooligosaccharide

AB In this invention, freeze-dried Bifidobacterium powder and isomaltooligosaccharide are used as additives to produce milk powder products that have immunity promoting and intestinal bacterial flora conditioning effects. In the milk powder products, the viable count of Bifidobacterium is above 10<sup>7</sup> cfu/g, and the water content is below 5%. The active bacteria can be selected from Bifidobacterium infantis, Bifidobacterium longum, Bifidobacterium bifidum, Bifidobacterium adolescentis, and Bifidobacterium breve.

AN 2005:1334148 HCAPLUS <<LOGINID::20090610>>

DN 144:107334

TI Manufacture of milk powder products containing active Bifidobacterium and isomaltooligosaccharide

IN Huo, Guicheng; Meng, Xiangchen; Yang, Lijie

PA Northeast Agricultural University, Peop. Rep. China

SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 21 pp.  
CODEN: CNXXEV

DT Patent

LA Chinese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1602708	A	20050406	CN 2003-10103233	20031103 <--
	CN 1305383	C	20070321		
PRAI	CN 2003-10103233		20031103	<--	

L7 ANSWER 4 OF 26 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Isomaltooligosaccharide-containing food and beverage products with controlled energy release

AB Food products, in particular sports drinks and energy bars, are formulated to include isomaltooligosaccharides. At least 35% of the nutritive carbohydrate content of the food product may comprise an isomaltooligosaccharide; ≥35% of the caloric content of the food product may be attributed to the isomaltooligosaccharide. The isomaltooligosaccharide may be present in an amount effective to provide a nutritive caloric content of ≥50 kcal. Thus, 65 g isomaltooligosaccharide, 35 g maltodextrin, 50 g protein, and 800 g water are blended to form a nutritional beverage.

AN 2005:394558 HCAPLUS <<LOGINID::20090610>>

DN 142:429176

TI Isomaltooligosaccharide-containing food and beverage products with controlled energy release

IN Barresi, Frank W.; Wang, Jiao

PA Grain Processing Corporation, USA

SO U.S. Pat. Appl. Publ., 8 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20050095350	A1	20050505	US 2004-947060	20040922 <--
PRAI	US 2003-504713P	P	20030922	<--	

L7 ANSWER 5 OF 26 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Dietary fiber-rich diet foods

AB The dietary fiber-rich diet foods are prepared from basic materials such as kombu which contain soluble fiber and insol. fiber such as phenylprenoid-containing polymers (lignin) by pulverization to 400-500 nm particles and mixing with isomeric oligosaccharides such as isomaltooligosaccharide, starch, dietary fiber that is hard to digest.

AN 2005:212296 HCAPLUS <<LOGINID::20090610>>

DN 142:260523

TI Dietary fiber-rich diet foods

IN Konno, Kenichi

PA Bouse and Company K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2005058093	A	20050310	JP 2003-292519	20030812 <--
PRAI	JP 2003-292519		20030812	<--	

L7 ANSWER 6 OF 26 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Primary study on synthesis and composition of iron -citric acid isomaltooligosaccharide complex

AB The iron (III) complex was synthesized with citric acid, isomaltooligosaccharide and ferric chloride, and its properties, composition, and structure were studied. The result showed that the compound

was

a surface complex with citric acid and glucan complex combined on the surface of the core  $\beta$ -FeOOH. Its solubility was about 26.8 g/dL water at 20°. The synthesized compound did not deposit at pH range of 2-14, and the mass percent of ferric was about 39.3%. It was possible to become a kind of high absorptive hematinic.

AN 2005:7091 HCAPLUS <<LOGINID::20090610>>

DN 143:114463

TI Primary study on synthesis and composition of iron -citric acid isomaltooligosaccharide complex

AU Zhu, Yibo; Zhang, Jianhua; Mao, Zhonggui

CS The Key Laboratory of Industrial Biotechnology, Ministry of Education, Southern Yangtze University, Wuxi, 214036, Peop. Rep. China

SO Wuxi Qinggong Daxue Xuebao (2003), 22(5), 66-68

CODEN: WQDXF3; ISSN: 1009-038X

PB Wuxi Qinggong Daxue Xuebao Bianjibu

DT Journal

LA Chinese

L7 ANSWER 7 OF 26 HCAPLUS COPYRIGHT 2009 ACS on STN

TI In vitro digestibility and fermentation of mannoooligosaccharides from coffee mannan

AB Digestibility of mannoooligosaccharides obtained from thermal hydrolysis of spent coffee grounds was examined by in vitro digestion method.

Mannoooligosaccharides were resistant to human salivary  $\alpha$ -amylase, artificial gastric juice, porcine pancreatic enzymes and rat intestinal

mucous enzymes. Fermentation products of mannoooligosaccharides in human large intestine were estimated by in vitro fecal incubation method. Mannoooligosaccharides were fermented by human fecal bacteria and the products of fermentation were short chain fatty acids. Acetic, propionic and n-butyric acids were the main short chain fatty acids as end fermentation products. These results suggest that mannoooligosaccharides are indigestible saccharides and are converted to short chain fatty acids in human large intestine. The short chain fatty acids are thought to improve the large intestinal environment. Moreover, they are absorbed and utilized by the host as an energy source.

AN 2003:455300 HCAPLUS <<LOGINID::20090610>>

DN 139:179252

TI In vitro digestibility and fermentation of mannoooligosaccharides from coffee mannan

AU Asano, Ichiro; Hamaguchi, Kengo; Fujii, Shigeyoshi; Iino, Hisakazu

CS Research and Development, Ajinomoto General Foods Inc., Mie, 513-8632, Japan

SO Food Science and Technology Research (2003), 9(1), 62-66

CODEN: FSTRFS; ISSN: 1344-6606

PB Japanese Society for Food Science and Technology

DT Journal

LA English

RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 8 OF 26 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Partially hydrolyzed guar gum.

Clinical nutrition uses

AB A review is given concerning partially hydrolyzed guar gum that is relevant to clin. nutrition practice. Methods. All relevant papers published on partially hydrolyzed guar gum were reviewed and the results summarized. Results. Partially hydrolyzed guar gum (PHGG) is a water-soluble dietary fiber with a wide range of uses in clin. nutrition. Its low viscosity allows its use in enteral products and beverages. PHGG can be added to enteral formulas and food products as a dietary fiber source. PHGG provides the benefits associated with dietary fiber ingestion. Addition of PHGG to the diet reduced laxative dependence in a nursing home population. PHGG also reduced the incidence of diarrhea in septic patients receiving total enteral nutrition and reduced symptoms of irritable bowel syndrome. PHGG also increased production of Bifidobacterium in the gut. Conclusion. The ease of use of PHGG and its clin. effectiveness make it a good choice in clin. nutrition practice.

AN 2003:415664 HCAPLUS <<LOGINID::20090610>>

DN 139:229794

TI Partially hydrolyzed guar gum.

Clinical nutrition uses

AU Slavin, Joanne L.; Greenberg, Norman A.

CS Department of Food Science and Nutrition, University of Minnesota, St. Paul, MN, USA

SO Nutrition (New York, NY, United States) (2003), 19(6), 549-552

CODEN: NUTRER; ISSN: 0899-9007

PB Elsevier Science Inc.

DT Journal; General Review

LA English

RE.CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 9 OF 26 HCAPLUS COPYRIGHT 2009 ACS on STN  
 TI Effects of various health food ingredients on hepatic injury induced by carbon tetrachloride and D-galactosamine hepatitis in rats  
 AB Lactosucrose, fructooligosaccharide, isomaltooligosaccharide, and lactulose are increasingly used as food ingredients for specified health uses in Japan. The *Agaricus blazei* mushroom also has many beneficial effects on health. There is little information concerning safety of these food ingredients in liver diseases. The effects of these health food ingredients on hepatic injury induced by CCl<sub>4</sub> and on galactosamine hepatitis were examined in male Wistar rats. The rats were injected with CCl<sub>4</sub> (50% in olive oil, 1 mL/kg body weight) twice a week for 1 mo and then fed exptl. diets containing 5% oligosaccharides or 1% *Agaricus* mushroom for 10 days. In the other experiment, the rats were injected with D-galactosamine solution (600 mg/kg body weight) and 24 h later were orally given the exptl. materials by stomach tube. The blood serum transaminase (GOT, GPT) activities were measured 48 h after the injection of D-galactosamine. The exptl. materials did not change the serum transaminase activities in the expts. Thus, these dietary supplements did not ameliorate the liver injury under these exptl. conditions, but also had no obvious toxicity.

AN 2003:228398 HCAPLUS <<LOGINID::20090610>>  
 DN 139:6130  
 TI Effects of various health food ingredients on hepatic injury induced by carbon tetrachloride and D-galactosamine hepatitis in rats  
 AU Egashira, Yukari; Sasahara, Shogo; Sanada, Hiroo  
 CS Faculty of Horticulture, Chiba University, 271-8510, Japan  
 SO Nippon Shokuhin Kagaku Gakkaishi (2002), 9(3), 125-130  
 CODEN: NSKGF4; ISSN: 1341-2094  
 PB Nippon Shokuhin Kagaku Gakkai  
 DT Journal  
 LA Japanese

L7 ANSWER 10 OF 26 HCAPLUS COPYRIGHT 2009 ACS on STN  
 TI Effect of dietary fiber on the lipid metabolism and immune function of aged sprague-dawley rats  
 AB Eight-month-old Sprague-Dawley rats were fed on diets containing dietary fiber at the 5% level for 3 wk to examine the effect on the lipid metabolism and immune function. Among cellulose, guar gum, partially hydrolyzed guar gum (PHGG), glucomannan and highly methoxylated pectin, guar gum induced a significant decrease in the food intake and weight gain, as well as a significant increase in the liver weight. In addition, the epididymal adipose tissue weight of the rats fed on PHGG was significantly higher than that of the rats fed on cellulose. There was no significant effect on the serum lipid levels, but the serum IgG level of the rats fed on guar gum was significantly lower than that of the rats fed on cellulose. The IgA and IgG productivity in mesenteric lymph node (MLN) lymphocytes was significantly higher in the rats fed on guar gum, glucomannan and pectin than in those fed on cellulose, while the effect on Ig productivity in spleen lymphocytes was not as marked. In addition, only guar gum induced a significant increase of IgM productivity in MLN lymphocytes when compared to the cellulose group. These results suggest that enhancement of the immune function by dietary fiber is mainly expressed in the gut immune system.

AN 2003:193551 HCAPLUS <<LOGINID::20090610>>  
 DN 138:384627  
 TI Effect of dietary fiber on the lipid metabolism and immune function of aged sprague-dawley rats  
 AU Yamada, Koji; Tokunaga, Yoko; Ikeda, Atsushi; Ohkura, Ken-Ichi; Kaku-Ohkura, Shihoko; Mamiya, Soichi; Lim, Beong Ou; Tachibana, Hirofumi

CS Division of Applied Biological Chemistry, Department of Bioscience and  
Biotechnology, Faculty of Agriculture, Kyushu University, Fukuoka,  
812-8581, Japan  
SO Bioscience, Biotechnology, and Biochemistry (2003), 67(2),  
429-433  
CODEN: BBBIEJ; ISSN: 0916-8451  
PB Japan Society for Bioscience, Biotechnology, and Agrochemistry  
DT Journal  
LA English  
RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 11 OF 26 HCAPLUS COPYRIGHT 2009 ACS on STN  
TI Physiological and technological functions of partially hydrolysed guar gum  
(modified galactomannans)  
AB A review. The physicochem. and nutritional properties,  
food functional applications, and digestive physiol. effects of  
partially hydrolyzed guar gum (PHGG) are discussed. PHGG is a natural water-soluble  
dietary fiber produced by controlled partial enzymic  
hydrolysis of guar galactomannan. Since the metabolic,  
nutritional, and anal. properties of the low-viscosity  
PHGG correspond to those of natural guar gum, PHGG is a  
product of choice for food industry purposes for fiber  
enrichment of processed food products.  
AN 2002:18788 HCAPLUS <<LOGINID::20090610>>  
DN 136:231646  
TI Physiological and technological functions of partially hydrolysed guar gum  
(modified galactomannans)  
AU Juneja, Lekh Raj; Sakanaka, Senji; Chu, Djong-Chi  
CS Taiyo Kagaku Co Ltd, Mie, 510-0825, Japan  
SO Advanced Dietary Fibre Technology (2001), 345-360. Editor(s):  
McCleary, Barry V.; Prosky, Leon. Publisher: Blackwell Science Ltd.,  
Oxford, UK.  
CODEN: 69CDP3  
DT Conference; General Review  
LA English  
RE.CNT 69 THERE ARE 69 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 12 OF 26 HCAPLUS COPYRIGHT 2009 ACS on STN  
TI Use of mannoooligosaccharides from coffee mannan by intestinal  
bacteria  
AB A mannoooligosaccharide mixture was obtained by hydrolysis of spent  
coffee grounds. Furthermore,  $\beta$ -1,4-D-mannobiose,  
 $\beta$ -1,4-D-mannotriose,  $\beta$ -1,4-D-mannotetraose, and  
 $\beta$ -1,4-D-mannopentose were fractionated by active carbon chromatog.  
from this mixture Each mannoooligosaccharide were investigated for  
its effect on the growth of established enterobacterial strains.  
Regardless of the mannoooligosaccharide mol. weight, all  
mannooligosaccharides were used by Bifidobacterium adolescentis,  
Lactobacillus acidophilus, and Lactobacillus gasseri. On the other hand,  
bad bacteria such as Clostridium perfringens and Escherichia  
coli that produce mutagenic substances could not use  
mannooligosaccharides. Therefore it could be expected that  
mannooligosaccharides had a potential to promote the improvement of  
healthful human intestinal microflora as prebiotics.  
AN 2001:846732 HCAPLUS <<LOGINID::20090610>>  
DN 136:308984  
TI Use of mannoooligosaccharides from coffee mannan by intestinal  
bacteria

AU Asano, Ichiro; Nakamura, Yasuyuki; Hoshino, Hiromitsu; Aoki, Keiji; Fujii, Shigeyoshi; Imura, Naoto; Iino, Hisakazu  
CS Central Research Laboratories, Ajinomoto General Foods Inc., Suzuka, Mie, 513-8632, Japan  
SO Nippon Nogei Kagaku Kaishi (2001), 75(10), 1077-1083  
CODEN: NNKKAA; ISSN: 0002-1407  
PB Nippon Nogei Kagakkai  
DT Journal  
LA Japanese

L7 ANSWER 13 OF 26 HCAPLUS COPYRIGHT 2009 ACS on STN  
TI The prebiotic effects of biscuits containing partially hydrolysed guar gum and fructo-oligosaccharides - a human volunteer study  
AB Prebiotics are nondigestible food ingredients that target selected groups of human colonic microflora, thus altering the microbial composition in a more beneficial way by increasing the populations of bifidobacteria and/or lactobacilli. The prebiotic potential of partially hydrolyzed guar gum (PHGG) and fructooligosaccharides (FOS) contained in biscuits was assessed in 31 humans. Fluorescent in situ hybridization with oligonucleotide probes targeting Bacteroides, Bifidobacterium, Clostridium, and Lactobacillus-Enterococcus spp. was used for bacterial identification and the total bacteria were enumerated using the 4',6-diamidino-2-phenylindole fluorescent staining. The subjects consumed daily 3 biscuits (providing 6.6 g FOS and 3.4 g PHGG) or 3 placebo biscuits in two 21-day crossover periods. The Bifidobacteria counts increased after ingestion of the exptl. biscuits compared with placebo. The Bifidobacteria counts returned to pretreatment levels within 7 days after cessation of the exptl. biscuits intake. A correlation was found between the initial fecal Bifidobacteria counts and the magnitude of bifidogenesis; subjects with low initial Bifidobacteria counts experienced the greatest increase in bifidogenesis. No changes were observed in the other bacterial groups monitored. Thus, the prebiotic nature of FOS and PHGG was maintained in the final biscuit food product as evidenced from the selective increase in Bifidobacteria counts.

AN 2001:756726 HCAPLUS <<LOGINID::20090610>>  
DN 136:36823  
TI The prebiotic effects of biscuits containing partially hydrolysed guar gum and fructo-oligosaccharides - a human volunteer study  
AU Tuohy, K. M.; Kolida, S.; Lustenberger, A. M.; Gibson, G. R.  
CS Food Microbial Sciences Unit, School of Food Biosciences, University of Reading, Reading, RG6 6AP, UK  
SO British Journal of Nutrition (2001), 86(3), 341-348  
CODEN: BJNUAV; ISSN: 0007-1145  
PB CABI Publishing  
DT Journal  
LA English

RE.CNT 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 14 OF 26 HCAPLUS COPYRIGHT 2009 ACS on STN  
TI Mannooligosaccharide for manufacturing probiotic bacteria growth promoter and anticariogenic food  
AB The mannooligosaccharide is prepared from mannan obtained from coffee bean dreg and lees by hydrolysis with e.g. an acid. It contains 1-10 mannose residues as main ingredient, and glucose and galactose as minor ingredient. It is useful for manufacturing growth promoter for probiotic bacteria, and low-calorie and anticariogenic food.  
AN 2001:406070 HCAPLUS <<LOGINID::20090610>>  
DN 134:366094  
TI Mannooligosaccharide for manufacturing probiotic

bacteria growth promoter and anticariogenic food  
IN Fujii, Shigeyoshi; Aoki, Takashi; Hoshino, Hiromitsu; Nakamura, Yasuyuki;  
Hamaguchi, Kengo; Asano, Ichiro; Imura, Naoto; Umemura, Masao  
PA Ajinomoto General Foods, Inc., Japan  
SO Jpn. Kokai Tokkyo Koho, 9 pp.  
CODEN: JKXXAF

DT Patent  
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	JP 2001149041	A	20010605	JP 2000-279883	20000914 <--
	JP 3553866	B2	20040811		
	JP 2004159659	A	20040610	JP 2003-416763	20031215 <--
PRAI	JP 1999-260185	A	19990914	<--	
	JP 2000-279883	A3	20000914	<--	

L7 ANSWER 15 OF 26 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Chemical and functional properties of partially  
hydrolyzed guar gum (Sunfiber) as a  
dietary fiber

AB A review with 57 refs. discussing chemical and functional properties of  
Sunfiber; metabolism and physiol. functions are also considered.

AN 1999:770856 HCAPLUS <<LOGINID::20090610>>

DN 132:250130

TI Chemical and functional properties of partially  
hydrolyzed guar gum (Sunfiber) as a  
dietary fiber

AU Chu, Djong-Chi; June, Lekh Raj

CS Res. Dev. Dep., Toyo Kagaku Co., Ltd., Japan

SO Innovations in Food Technology (1999), (2), 9-14

CODEN: INFTFU; ISSN: 1465-0460

PB Print Workshop Publications

DT Journal; General Review

LA English

RE.CNT 57 THERE ARE 57 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 16 OF 26 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Fiber and vitamin-fortified beverage composition and manufacture  
by flash-flow processing

AB A beverage composition contains a source of fiber and one or more  
addnl. nutrients. The composition is in the form of a shearform matrix as a  
result of flash-flow processing. The beverage composition is highly stable in  
storage. Thus, a dry beverage mix may contain Psyllium fiber  
15.7, locust bean gum 1, maltose corn syrup solids 65% 40-60, guar gum (an  
partially hydrolyzed guar gum)  
20-21, gum arabic 1, hydroxylated lecithin 2, orange oil 2.5, and pectin  
1%, and other constituents.

AN 1999:704857 HCAPLUS <<LOGINID::20090610>>

DN 131:285739

TI Fiber and vitamin-fortified beverage composition and manufacture  
by flash-flow processing

IN Kota, Suresh B.; Zhang, Bei; Chau, Tommy; Yang, Robert K.; Cherukuri,  
Subraman R.; Banerjee, Abhijit

PA Fuisz Technologies Ltd., USA

SO U.S., 6 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5976603	A	19991102	US 1998-140380	19980826 <--
	WO 2000011971	A2	20000309	WO 1999-US18335	19990813 <--
	WO 2000011971	A3	20000608		
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	AU 9954809	A	20000321	AU 1999-54809	19990813 <--
PRAI	US 1998-140380	A	19980826 <--		
	WO 1999-US18335	W	19990813 <--		
RE.CNT	11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT				

L7 ANSWER 17 OF 26 HCAPLUS COPYRIGHT 2009 ACS on STN

TI New process of producing isomalto - oligosaccharides with hollow fiber membrane reactor

AB A polysulfone hollow fiber membrane reactor (HFMR) was used to produce continuously isomaltooligosaccharides. The maltooligosaccharides were transformed into isomaltooligosaccharides by biozyme and transglucosidase. Through the orthogonal expts. of the continuous production by HFMR, the dosages of two enzymes, the reaction temperature and the reaction time were optimized. The results showed that comparing to the conventional system, HFMR system significantly saved the enzyme dosage, greatly shortened the reaction time and increased the productivity. Moreover, the quality of the products was much improved, and the yield of branching - saccharides went up to 64%.

AN 1999:211441 HCAPLUS <<LOGINID::20090610>>

DN 131:18031

TI New process of producing isomalto - oligosaccharides with hollow fiber membrane reactor

AU Li, Zhida; Huang, Zhitong; Zhu, Qiuxiang; Wei, Jianmin; Wu, Hongjing

CS Department of Biotechnology and Food Science, Fuzhou University, Fuzhou, 350002, Peop. Rep. China

SO Zhongguo Liangyou Xuebao (1998), 13(6), 23-27  
CODEN: ZLXUFO; ISSN: 1003-0174

PB Zhongguo Liangyou Xuebao Bianjibu

DT Journal

LA Chinese

L7 ANSWER 18 OF 26 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Discussion of functional oligosaccharide

AB A review with 7 refs. discussing functional oligosaccharides including the pernicious effects of harmful bacteria in intestines and poisonous fermentation products on human body; the pos. effect of antagonism of oligosaccharide to these pernicious effects and various physiol. function induced from it; edible soft, standard of absorb amount per day and possible neg. effects; properties, preparation, application and development trend of fructooligosaccharide, xylooligosaccharide, lactosucrose and isomaltooligosaccharide.

AN 1997:585395 HCAPLUS <<LOGINID::20090610>>

DN 127:204557

OREF 127:39759a,39762a

TI Discussion of functional oligosaccharide

AU Zheng, Jianxian; Geng, Liping

CS Coll. Food Bioengineering, South China Univ. Technol., Canton, 510641, Peop. Rep. China

SO Shipin Yu Fajiao Gongye (1997), 23(1), 39-46  
CODEN: SPYYDO; ISSN: 0253-990X  
PB Shipin Yu Fajiao Gongye  
DT Journal; General Review  
LA Chinese

L7 ANSWER 19 OF 26 HCAPLUS COPYRIGHT 2009 ACS on STN  
TI Functional and physiological properties of partially  
hydrolyzed guar gum.

AB Partially hydrolyzed guar gum (PHGG) is a relatively new food ingredient that has been evaluated for its safety, physiol. effects and functionality in food over the past 10 yr. Native guar gum is enzymically treated to reduce the average mol. by an order of magnitude. This gives a PHGG that still assays and functions as a soluble dietary fiber. PHGG is being used in many food products in Asia and as a fiber source in medical foods in North America and Europe. This talk will focus on the physiol. data that has been reported for PHGG, in both animals and humans. Most of this data relates to normalization of bowel function. The effect of PHGG on gut flora and cholesterol level will also be discussed.

AN 1997:158964 HCAPLUS <<LOGINID::20090610>>

TI Functional and physiological properties of partially  
hydrolyzed guar gum.

AU Greenberg, N. A.

CS Strategic Research Group, Sandoz Nutrition Corporation, Minneapolis, MN, 55440, USA

SO Book of Abstracts, 213th ACS National Meeting, San Francisco, April 13-17 (1997), CARB-031 Publisher: American Chemical Society, Washington, D. C.  
CODEN: 64AOAA

DT Conference; Meeting Abstract

LA English

L7 ANSWER 20 OF 26 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Effects of partially hydrolyzed guar  
gum on feeding behavior and crop emptying rate in chicks

AB The effects of partially hydrolyzed guar gum (PHGG) or intact guar gum (GG) on feeding behavior and crop emptying rate in growing chicks were investigated. Several combinations of dietary PHGG and GG at 50 g per kg diets were prepared for a feed intake experiment. Birds (17-d-old) were given diets for 3 h after 16 h fasting, and food consumption was measured at 1 h intervals. The food intake rapidly decreased as the dietary GG content increased even at 1 h after feeding. The rate of food passage from the crop was also investigated with birds (20-d-old) after 16 h fasting. Birds were tube-fed diets having several ratios of dietary PHGG and GG. After 1 h of feeding, the diet remaining in the crop was measured after drying. The crop emptying rate decreased linearly as dietary PHGG concentration decreased. The present study suggests that partial hydrolysis of dietary GG improve both feeding behavior and food passage from the crop in growing chicks.

AN 1996:232687 HCAPLUS <<LOGINID::20090610>>

DN 124:315748

OREF 124:58571a,58574a

TI Effects of partially hydrolyzed guar  
gum on feeding behavior and crop emptying rate in chicks

AU Furuse, M.; Mabayo, R. T.

CS School of Agricultural Sciences, Nagoya University, Nagoya, 464-01, Japan

SO British Poultry Science (1996), 37(1), 223-7

CODEN: BPOSA4; ISSN: 0007-1668

PB Carfax  
DT Journal  
LA English

L7 ANSWER 21 OF 26 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Protein and energy utilization of growing rats fed on the diets containing intact or partially hydrolyzed guar gum

AB Growing rats were fed diets containing intact guar gum (GG, 5%) and varying amts. of partially hydrolyzed guar gum (PHGG, 5 and 10%) for 3 wk. Food consumption was similar to that of the control rats, except that of the rats fed GG gradually declined. The cecum and large intestine wts. increased in rats fed the GG and PHGG diets. Digestible and metabolizable energy values and efficiency of energy utilization declined in the rats fed the exptl. diets but protein utilization remained unchanged. It is concluded that PHGG is effective in decreasing body fat and energy deposition without reduction of protein utilization.

AN 1994:190317 HCAPLUS <<LOGINID::20090610>>

DN 120:190317

OREF 120:33681a,33684a

TI Protein and energy utilization of growing rats fed on the diets containing intact or partially hydrolyzed guar gum

AU Takahashi, Hidehisa; Yang, Sung Ik; Kim, Mujo; Yamamoto, Takehiko

CS Cent. Res. Lab., Taiyo Kagaku Co., Ltd., Yokkaichi, 510, Japan

SO Comparative Biochemistry and Physiology, Part A: Molecular & Integrative Physiology (1994), 107A(1), 255-60  
CODEN: CBPAB5; ISSN: 0300-9629

DT Journal  
LA English

L7 ANSWER 22 OF 26 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Effect of isomalto-oligosaccharides on fecal properties and digestive conditions of healthy people

AB Effects of the ingestion of isomalto-oligosaccharides (a com. product containing 85.5% of  $\alpha$ -1,6-linked gluco-oligosaccharides with d.p. 2-6) on the feces of healthy people were studied. The ingestion of 10-15 g/day by people with constipation softened the stool, and improved digestion with few side effects. Fecal properties of normal subjects were little affected by isomalto-oligosaccharide ingestion for more than 2 wk. Thus, the product is harmless as a food ingredient.

AN 1993:494364 HCAPLUS <<LOGINID::20090610>>

DN 119:94364

OREF 119:16993a,16996a

TI Effect of isomalto-oligosaccharides on fecal properties and digestive conditions of healthy people

AU Kaneko, Toshiyuki; Kohmoto, Takanobu; Kikuchi, Hiroe; Shiota, Sadao; Yatake, Tsuneya; Iino, Hisakazu; Tsuji, Keisuke

CS Sogo-Kenkyujo (R and D Cent.), Showa Sangyo Co., Ltd., Funabashi, 273, Japan

SO Rinsho Eiyo (1993), 82(7), 789-94

CODEN: RNEYAW; ISSN: 0485-1412

DT Journal  
LA Japanese

L7 ANSWER 23 OF 26 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Food fibers with low contents of electrolytes as medications

AB Food fibers isolated from guar gum, tamarind-seed gum, or locust

bean gum containing  $\leq 0.1$  g electrolytes/100 g are given to patients with renal diseases for lowering blood cholesterol level and improving bowel movement. For example, guar gum was treated with plant tissue degrading enzymes (galactomannase, cellulase) to give partially-hydrolyzed guar gum. The hydrolyzate was passed through ion exchangers in chromatog. column to decrease electrolyte content. The eluate was concentrated and spray-dried, and the resulting powder was made into tablets.

AN 1992:658247 HCAPLUS <<LOGINID::20090610>>

DN 117:258247

OREF 117:44531a,44534a

TI Food fibers with low contents of electrolytes as medications

IN Otsu, Keiji; Yamada, Hiroyuki; Sekiya, Keiji; Uno, Yoichiro; Owaya, Kazuhiko

PA Dainippon Pharmaceutical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04210639	A	19920731	JP 1990-339461	19901130 <--
PRAI	JP 1990-339461		19901130	<--	

L7 ANSWER 24 OF 26 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Digestibility of isomaltooligosaccharides by rats and effects on serum lipids

AB The effects of ingestion of isomaltooligosaccharides (IMO) for 35 days on growth, organ weight, serum lipids, and saccharidase activities of rat jejunal mucosa were investigated. The digestibility of IMO was measured in models of a digestive system containing artificial gastric acid, rat intestinal mucosa, or human salivary or hog pancreatic  $\alpha$ -amylase. The ratios of body weight gain/food intake of the test chows suggested that the energy available to rats in IMO was about 80% that of maltose and sucrose. The serum levels of triacylglycerol and nonesterified fatty acids were significantly lower in rats fed 20% IMO. These results were similar to those obtained in rats fed chow containing fructooligosaccharide, which is nondigestible in the upper intestine and fermentable in the lower. The long-term ingestion of IMO did not induce isomaltase activity in the rat jejunal mucosa. IMO was not hydrolyzed by the in vitro digestion system except in the model containing rat intestinal mucosa. The hydrolysis ratio of IMO by rat intestinal mucosa was much lower than that of maltose or isomaltose. The results suggested that IMO is partly hydrolyzed by the enzyme of intestinal mucosa, but that the residual undigested part passes down to the lower intestine.

AN 1992:611454 HCAPLUS <<LOGINID::20090610>>

DN 117:211454

OREF 117:36505a,36508a

TI Digestibility of isomaltooligosaccharides by rats and effects on serum lipids

AU Kaneko, Toshiyuki; Kohmoto, Takanobu; Kikuchi, Hiroe; Fukui, Fumio; Shiota, Masao; Yatake, Tsuneya; Takaku, Hajime; Iino, Hisakazu

CS Res. Dev. Cent., Showa Sangyo Co., Ltd., Funabashi, 273, Japan

SO Nippon Nogei Kagaku Kaishi (1992), 66(8), 1211-20

CODEN: NNKKAA; ISSN: 0002-1407

DT Journal

LA Japanese

L7 ANSWER 25 OF 26 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Foods and beverages containing isomalto-oligosaccharides and

dietary fibers  
AB Foods and beverages which are anticariogenic, lower cholesterol, and improve feces condition, contain isomalto-oligosaccharides and dietary fibers. A coffee jelly was manufactured from powdered gelatin 10, coffee powder 4, and H2O .apprx.330 g. A man ate the coffee jelly with 4-60 g Isomalt 500 (isomalto-oligosaccharides) to improve his feces condition.

AN 1990:439337 HCAPLUS <<LOGINID::20090610>>

DN 113:39337

OREF 113:6685a,6688a

TI Foods and beverages containing isomalto-oligosaccharides and dietary fibers

IN Kanno, Tomoe

PA Showa Sangyo Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	JP 02072842	A	19900313	JP 1988-222520	19880907 <--
	JP 2802077	B2	19980921		
PRAI	JP 1988-222520		19880907	<--	

L7 ANSWER 26 OF 26 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Manufacture of health food containing dietary fibers and branched oligosaccharides

AB Low-calorie health foods for weight control are manufactured by extruding and swelling compns. of dietary fibers and branched oligosaccharides with  $\alpha$ -1,6-glucose linkage and/or their reduced products. Thus, wheat germ 70, wheat flour 21, soybean protein powder 7, prune extract 5, Isomalt 500 (isomaltoligosaccharide) 5, and wheat bran 2 kg were mixed, extruded under addition of water, and dried at 70° to give cracker-type food useful in weight control.

AN 1989:230476 HCAPLUS <<LOGINID::20090610>>

DN 110:230476

OREF 110:38187a,38190a

TI Manufacture of health food containing dietary fibers and branched oligosaccharides

IN Sugano, Okifumi; Tabuchi, Misao; Takaku, Hajime; Kojima, Yumiko

PA Showa Sangyo Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	JP 63254961	A	19881021	JP 1987-88883	19870413 <--
	JP 07053091	B	19950607		
PRAI	JP 1987-88883		19870413	<--	

=> d his

(FILE 'HOME' ENTERED AT 10:15:56 ON 10 JUN 2009)

FILE 'HCAPLUS' ENTERED AT 10:16:04 ON 10 JUN 2009

L1 720 S (METHYL(W) ((MANNO-OLIGOSACCHARIDE) OR MANNOOLIGOSACCHARIDE))

L2 720 S (METHYL(W) ((MANNO-OLIGOSACCHARIDE) OR MANNOOLIGOSACCHARIDE))

L3 1216327 S NUTRITIONAL OR PREBIOTIC OR DIETARY OR FIBER OR BACTERIA  
 L4 188 S L2 AND L3  
 L5 465421 S FOOD  
 L6 61 S L4 AND L5  
 L7 26 S L6 AND (PY<2004 OR AY<2004 OR PRY<2004)

FILE 'STNGUIDE' ENTERED AT 10:19:41 ON 10 JUN 2009

FILE 'HCAPLUS' ENTERED AT 10:19:49 ON 10 JUN 2009

FILE 'STNGUIDE' ENTERED AT 10:19:52 ON 10 JUN 2009

=> log hold

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
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FULL ESTIMATED COST	0.07	98.31
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	0.00	-21.32

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COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	0.07	98.31
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	0.00	-21.32

=> file hcaplus

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	ENTRY	SESSION
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	ENTRY	SESSION
CA SUBSCRIBER PRICE	0.00	-21.32

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FILE LAST UPDATED: 9 Jun 2009 (20090609/ED)  
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USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Feb 2009

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=> s (isomalto-oligosaccharide) or isomaltooligosaccharide

```
          225 ISOMALTO
        33462 OLIGOSACCHARIDE
          63 ISOMALTO-OLIGOSACCHARIDE
            (ISOMALTO(W)OLIGOSACCHARIDE)
          386 ISOMALTOOLIGOSACCHARIDE
L8          427 (ISOMALTO-OLIGOSACCHARIDE) OR ISOMALTOOLIGOSACCHARIDE
```

=> s long or length or (degree of polymerization)

```
          917009 LONG
          664742 LENGTH
        4590449 DEGREE
          375409 POLYMERIZATION
          5917 DEGREE OF POLYMERIZATION
            (DEGREE(1W)POLYMERIZATION)
L9          1529307 LONG OR LENGTH OR (DEGREE OF POLYMERIZATION)
```

=> s 18 and 19

L10 20 L8 AND L9

=> s 110 and (PY<2004 or AY<2004 or PRY<2004)

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          24035561 PY<2004
          4799862 AY<2004
          4272561 PRY<2004
L11          9 L10 AND (PY<2004 OR AY<2004 OR PRY<2004)
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=> file stnguide

COST IN U.S. DOLLARS

SINCE FILE  
ENTRY

TOTAL  
SESSION

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DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	0.00	-21.32

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COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	0.07	101.37
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	0.00	-21.32

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 FILE LAST UPDATED: 9 Jun 2009 (20090609/ED)  
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=> s l11 not l7

L12 8 L11 NOT L7

=> d l12 1-9 ti abs bib

L12 ANSWER 1 OF 8 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Production of dried fig product having soft texture and enhanced eating quality by allowing permeation of dried figs into gelatin jelly liquid, or crushing softened dried figs and then mixing with gelatin jelly liquid

AB A method of producing a dried fig product by allowing permeation of dried figs into gelatin jelly liquid, or crushing softened dried figs and then mixing with gelatin jelly liquid is provided. The product has a soft texture and enhanced eating quality and is stored for a long period of time. In one method, dried figs are steamed to give soft figs having a moisture content of 30 to 35%, added with sugar concs. containing isomaltooligosaccharide and water in a ratio of 2:1 at 108 °C, concentrated to 116 to 118 °C while agitating and then cooled to 80 to 100 °C. After mixing the concentrated sugar liquid with gelatin liquid, the gelled figs are taken from the gelatin gel liquid, coated with a mold release agent and then cooled to give dry fig products. In another method, dried figs are steamed to give wet figs having a moisture content of 30 to 35% and then crushed. Sugar concs. containing isomaltooligosaccharide and water in a ratio of 2:1 are concentrated at 116 to 118 °C, cooled to 80 to 100 °C and mixed with gelatin liquid to give gelatin jelly liquid. The gelatin jelly is mixed with the wet figs, formed into a predetd. form and coated with a mold release agent to give wet fig products. The gelatin jelly liquid contains 8 to 10% by weight of gelatin, 25 to 40% by weight of white sugar, 25 to 40% by weight of corn syrup and 27 to 42% by weight of water. The mold release agent is coconut powder, roasted bean flour, waxy maize starch or potato starch.

AN 2006:814669 HCAPLUS <<LOGINID::20090610>>

DN 145:248100

TI Production of dried fig product having soft texture and enhanced eating quality by allowing permeation of dried figs into gelatin jelly liquid, or crushing softened dried figs and then mixing with gelatin jelly liquid

IN Kim, Gwang Ho

PA Kumho Mulsan Corp. Co., Ltd., S. Korea

SO Repub. Korean Kongkae Taeho Kongbo, No pp. given

CODEN: KRXXA7

DT Patent

LA Korean

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	KR 2004110308	A	20041231	KR 2003-39541	20030618 <--
PRAI	KR 2003-39541		20030618	<--	

L12 ANSWER 2 OF 8 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Process for preparing isomalto-oligosaccharides with elongated chain and low glycemic index

AB Isomalto-oligosaccharides are directly converted to isomalto-oligosaccharides with elongated chain length in the presence of glucan sucrase. Said products can be used in food, feed, beverages, cosmetics or pharmaceutical products and are particularly useful as slow or non-digestible oligosaccharides, low calorie providers, prebiotics, mineral absorption promoting agents, non-cariogenic agents and/or low glycemic index regulating syrups.

AN 2004:675644 HCAPLUS <<LOGINID::20090610>>

DN 141:190055

TI Process for preparing isomalto-oligosaccharides with elongated chain and low glycemic index

IN Vercauteren, Ronny Leontina Marcel; Nguyen, Van Sau

PA Cerestar Holding B.V., Neth.

SO PCT Int. Appl., 17 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004068966	A1	20040819	WO 2004-EP1060	20040205 <--
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI				
	RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	EP 1589831	A1	20051102	EP 2004-708319	20040205 <--
	EP 1589831	B1	20080423		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	CN 1747659	A	20060315	CN 2004-80003594	20040205 <--
	CN 100379872	C	20080409		
	JP 2006518200	T	20060810	JP 2006-501744	20040205 <--
	AT 392818	T	20080515	AT 2004-708319	20040205 <--
	US 20060148040	A1	20060706	US 2005-544531	20050804 <--
PRAI	GB 2003-2894	A	20030208	<--	
	WO 2004-EP1060	W	20040205		

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 3 OF 8 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Immobilization of cycloisomaltooligosaccharide glucanotransferase for the production of cycloisomaltooligosaccharides from dextran

AB Immobilization of cycloisomaltooligosaccharide glucanotransferase (CITase) and its application in the production of cycloisomaltooligosaccharides (CIs) from dextran were studied. Among various carrier materials examined, the enzyme adsorbed phys. on Chitopearl BCW-3505 showed the highest activity (1.75 U/mL carrier). The activity remaining was 35%. The maximum CI yield in batch reactions at 0.2, 2 and 10% dextran was 28, 24 and 12%, resp. The maximum CI yield at 2% dextran (24%) was slightly less than that with the free enzyme under the same conditions (26%). The concentration of linear oligosaccharides, the byproducts in the reaction mixture, was greater with the immobilized CITase than the free enzyme. The immobilized CITase was less thermostable than the free enzyme by about 10°C. The pattern of influence of Ca<sup>2+</sup> concentration on the thermostability differed between the free and immobilized CITase. A Ca<sup>2+</sup> concentration of 50-100 mM was optimum for the thermostability of the immobilized CITase, 10-50 mM for the free enzyme. CIs were produced continuously by a column system packed with the immobilized enzyme at 40°C with a space velocity (SV) of 6 h<sup>-1</sup>. The three quarters life time was 4 wk. We think that relatively long life time at fast SV was accomplished and CI production cost by this method should be lower than the batch reaction. This is the first report on immobilization of CITase.

AN 2001:207524 HCAPLUS <<LOGINID::20090610>>

DN 134:279663

TI Immobilization of cycloisomaltooligosaccharide glucanotransferase for the production of cycloisomaltooligosaccharides from dextran

AU Kawamoto, H.; Oguma, T.; Sekine, H.; Kobayashi, M.

CS Noda Institute for Scientific Research, Noda, Japan

SO Enzyme and Microbial Technology (2001), 28(6), 515-521

CODEN: EMTED2; ISSN: 0141-0229

PB Elsevier Science Ireland Ltd.

DT Journal

LA English

RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

- L12 ANSWER 4 OF 8 HCAPLUS COPYRIGHT 2009 ACS on STN  
 TI Discovery of neopullulanase and proposal of  $\alpha$ -amylase family  
 AB A review with 41 refs. We found a new enzyme, neopullulanase, and proved that the enzyme catalyzes both hydrolysis and transglycosylation at  $\alpha$ -(1 $\rightarrow$ 4)- and  $\alpha$ -(1 $\rightarrow$ 6)-glucosidic linkages by one active center. A series of exptl. results using neopullulanase indicated that the 4 reactions described above could be catalyzed in the same mechanism. On the basis of the common catalytic mechanisms and the structural similarities among the enzymes which catalyze the 4 reactions, we proposed a general concept for an enzyme family,  $\alpha$ -amylase family. The substrate specificity and the transglycosylation activity of neopullulanase were altered by site-directed mutagenesis on the basis of information from a 3-dimensional structure predicted by computer-aided mol. modeling. From the standpoint of industrial application, we developed a new way of producing isomalto-oligosaccharide syrup using the transglycosylation reaction of neopullulanase. We also expanded the concept of  $\alpha$ -amylase family into branching enzymes and constructed chimeric enzymes of starch branching enzymes I and II isoforms from maize endosperm. The results indicated that the N- and C-terminuses may be involved in determining substrate preference, catalytic capacity, and chain length transfer.
- AN 1998:229336 HCAPLUS <<LOGINID::20090610>>  
 DN 128:291829  
 OREF 128:57723a,57726a  
 TI Discovery of neopullulanase and proposal of  $\alpha$ -amylase family  
 AU Kuriki, Takashi  
 CS Biochem. Res. Lab., Ezaki Glico Co., Ltd., Osaka, 555-8502, Japan  
 SO Oyo Toshitsu Kagaku (1998), 45(1), 63-70  
 CODEN: OTKAE3; ISSN: 1340-3494  
 PB Nippon Oyo Toshitsu Kagakkai  
 DT Journal; General Review  
 LA Japanese
- L12 ANSWER 5 OF 8 HCAPLUS COPYRIGHT 2009 ACS on STN  
 TI Isomalto-oligosaccharide-containing lipoteichoic acid of *Streptococcus sanguis*. Microheterogeneity and distribution of chain substituents  
 AB The lipoteichoic acid of *S. sanguis* DSM 20567 contains a poly(glycerophosphate) chain, with 49% of the glycerophosphate residues being substituted with D-alanine ester and 35% with  $\alpha$ -D-glucopyranosyl and  $\alpha$ - isomaltooligosaccharide residues. Anal. of mol. spp. by affinity chromatog. on Con A showed all chains to be substituted and alanine ester and glycosyl residues to be present on the same rather than on sep. chains. Mol. spp. varied in the length of the poly(glycerophosphate) chain and the extent of glycosylation and had a constant alanine ester content. An alkaline hydrolysis procedure revealed a distribution pattern between random and regular for the glycosyl substituents and suggested a similar distribution for the alanyl residues which occupy the free positions between the glycosyl substituents.
- AN 1993:467590 HCAPLUS <<LOGINID::20090610>>  
 DN 119:67590  
 OREF 119:12093a,12096a  
 TI Isomalto-oligosaccharide-containing lipoteichoic acid of *Streptococcus sanguis*. Microheterogeneity and distribution of chain substituents  
 AU Kochanowski, Bernd; Leopold, Klaus; Fischer, Werner  
 CS Med. Fak., Univ. Erlangen-Nuernberg, Germany  
 SO European Journal of Biochemistry (1993), 214(3), 757-61

CODEN: EJBCAI; ISSN: 0014-2956

DT Journal  
LA English

L12 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Isomalto-oligosaccharide-containing lipoteichoic acid  
of *Streptococcus sanguis*. Basic structure

AB The lipoteichoic acid of *S. sanguis* DSM 20567 and of DSM 20068 was isolated by PhOH/H<sub>2</sub>O extraction and hydrophobic-interaction chromatog. The prepns. from both strains have an identical structure: a 1,3-linked poly(glycerophosphate) chain phosphodiester-linked to Glc-( $\alpha$ 1-2)Glc( $\alpha$ 1-3)acyl2Gro as the lipid anchor. The chain is substituted with D-alanine ester and glycosyl residues that comprise mono-, di-, tri-, and tetra- $\alpha$ -D-glucopyranosyl residues with (1-6) interglycosidic linkages. The glycosylglycerols were released with 48% HF, separated, and characterized by a combination of chemical procedures and 1H-NMR and 13C-NMR spectroscopy. The  $\alpha$ -isomaltooligosaccharides add a novel motif to lipoteichoic acid chain substituents. 1H-NMR and 13C-NMR spectroscopy also provided a detailed picture of the basic glycosylated poly(1,3-glycerophosphate) diglucosylglycerol. It proved a single unbranched chain structure, provided evidence for the chain length, the extent of glycosylation, the structure of the lipid anchor, and the site of attachment of the poly(glycerophosphate) chain on the lipid anchor. Owing to its unique glycosyl substituents, the lipoteichoic acid may serve as a taxonomic marker for the redefined sp. *S. sanguis* (formerly *S. sanguis* type I).

AN 1993:467589 HCAPLUS <<LOGINID::20090610>>

DN 119:67589

OREF 119:12093a,12096a

TI Isomalto-oligosaccharide-containing lipoteichoic acid  
of *Streptococcus sanguis*. Basic structure

AU Kochanowski, Bernd; Fischer, Werner; Iida-Tanaka, Naoko; Ishizuka, Ineo

CS Fak. Univ., Erlangen-Nurnberg, Germany

SO European Journal of Biochemistry (1993), 214(3), 747-55

CODEN: EJBCAI; ISSN: 0014-2956

DT Journal

LA English

L12 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Acute and chronic toxicity and mutagenicity studies on  
isomaltooligosaccharides, and the effects on peripheral blood lymphocytes  
and intestinal microflora

AB The biol. effect of isomaltooligosaccharides (IMO) on peripheral blood lymphocytes and on the composition of intestinal microflora was investigated. Male Wistar rats were fed ad libitum with drinking water containing 3% IMO for 12 mo. An acute oral toxicity test using male Wistar rats, a mutagenicity test by the Ames method, and a chromosome aberration test using Chinese hamster lung cells were carried out. The intake of IMO by rats in long-term studies was ested. to be 2.7-5.0g/kg/day. The absolute number of peripheral blood lymphocytes was increased remarkably without an increase in white blood cells at 1 and 3 mo after the start of the study. Stimulation of *Bifidobacterium* growth and suppression of *Clostridium* growth were observed during the study for 12 mo. No adverse effect of IMO feeding was observed in treated rats as regards the body weight, blood biochem. and hematol. tests, and anatomical and histopathol. exams. The oral LD50 value of IMO was estimated to be 44.0g/kg. Neither mutagenicity in *Salmonella typhimurium* TA98, TA100, TA1535, or TA1537, or *Escherichia coli* WP2uvrA-, nor chromosome aberration in CHL cells was observed

AN 1991:180093 HCAPLUS <<LOGINID::20090610>>

DN 114:180093

OREF 114:30267a,30270a

TI Acute and chronic toxicity and mutagenicity studies on  
isomaltooligosaccharides, and the effects on peripheral blood lymphocytes  
and intestinal microflora  
AU Kaneko, Toshiyuki; Kohmoto, Takanobu; Fukui, Fumio; Hirao, Akinori;  
Suzuki, Shigetoshi; Hirao, Akinori; Nakatsuru, Shuuichi; Kanisawa,  
Masayoshi  
CS Res. Dev. Cent., Showa Sangyo Co., Ltd., Funabashi, 273, Japan  
SO Shokuhin Eiseigaku Zasshi (1990), 31(5), 394-403  
CODEN: SKEZAP; ISSN: 0015-6426  
DT Journal  
LA Japanese

L12 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2009 ACS on STN  
TI Carbon-13 NMR investigations on polymer-homologue series of  $\alpha$ ,1  
→ 6 and  $\alpha$ ,1 → 4 glucans  
AB The <sup>13</sup>C-NMR spectra of malto- and isomalto-oligosaccharides, amylose and  
dextran showed that in both the oligosaccharide and polysaccharides series  
the resonances of the central glucose units are independent of the chain  
length with the exception of the C-atoms 1 and 4 of amylose which  
show deviations of 0.4 and 0.5 ppm. These effects may be due to a  
definite polysaccharide chain conformation in solution  
AN 1976:180496 HCAPLUS <<LOGINID::20090610>>  
DN 84:180496  
OREF 84:29267a  
TI Carbon-13 NMR investigations on polymer-homologue series of  $\alpha$ ,1  
→ 6 and  $\alpha$ ,1 → 4 glucans  
AU Friebolin, Horst; Frank, Norbert; Keilich, Gunda; Siefert, Egon  
CS Org.-Chem. Inst., Univ. Heidelberg, Heidelberg, Fed. Rep. Ger.  
SO Makromolekulare Chemie (1976), 177(3), 845-58  
CODEN: MACEAK; ISSN: 0025-116X  
DT Journal  
LA German